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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,469	11/07/2003	Sang Chul Yoon	P23878	8288

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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/702,469	Applicant(s) YOON ET AL.	
	Examiner Paul L Rodriguez	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/3/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-8 are presented for examination.

Information Disclosure Statement

2. The Information disclosure statements filed 2/3/05 and 2/9/04 have been received and considered. While the cover letter submitted with the 2/9/04 IDS states that a PTO-1449 was attached to the letter, the Examiner could not locate a copy of the PTO-1449 in the application file, therefore an initialed copy could not be provided. The documents listed on the cover letter, were present in the application file and have been considered by the Examiner. In order to indicate that they have been considered, the Examiner has listed them on the attached PTO-982.

Specification

3. The disclosure is objected to because of the following informalities:

Paragraph 15 lines 3-4 state "As show in Fig. 3, the multiple air conditioners 250 can include...200...with...100". Figure 3 only shows reference number 250 as a single labeled box. Figure 2 provides a more accurate description with the plurality of reference number 200 and 100.

Paragraph 28 line 5 refers to "controller 304", previously "control program transmitter 304", "central controller 300" and "controller 330", unclear which controller or element line 5 is referring to.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai et al (U.S.

Pub 2002/0029096). The claimed invention reads on Takai et al as follows:

Takai et al discloses (claim 1) a central control system (figure 4) that controls multiple air conditioners (paragraph 14, 15) including at least one outdoor device (reference number 301) and a plurality of indoor devices (paragraph 26), said central control system comprising a central controller (reference number 100) connected to the multiple air conditioners through a dedicated line (reference number 401), for transmitting and receiving signals based on an air conditioner communication protocol (paragraph 28), to control the multiple air conditioners (paragraph 27, 30, 31, 49), the central controller also connected to an external Internet network (Figure 4), for transmitting and receiving signals based on an Ethernet communication protocol (paragraph 47-49), to receive a control command for the multiple air conditioners (paragraph 27, 49), and a protocol converter that performs a communication protocol conversion of a signal (reference number 200, 202), whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (paragraph 27, 47-49), (claim 2) wherein the central controller comprises a key input device that receives the control command associated with the multiple air conditioners (reference number 704, 705, paragraph 28) and an output device that outputs control conditions of the multiple air conditioners operated according to the control command (reference number 706, 100, 700-702), (claim 3) wherein the central

controller comprises: a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for controlling the multiple air conditioners (figure 2, paragraph 40, figure 3, paragraph 43, 44, 47), (claim 4) wherein the central controller comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote controller in response to a request from the remote controller received through the Internet network (paragraph 48, 49), (claim 5) wherein the central controller comprises a signal storage device that stores the control command received through the Internet network (paragraph 47), an Internet data storage device that stores data for accessing the Internet network and IP address data (paragraph 47-49) and a controller that controls the flow of signals transmitted and received through the Internet network, and controls the protocol converter for performing a communication protocol conversion of a signal (paragraph 28, 29, 31), (claim 6) wherein the protocol converter is connected by a cable to the central controller through a serial port of the central controller (paragraph 28, USB), (claim 7) a method of operating a central control system for multiple air conditioners (paragraph 14, 15, 27, 49) comprising receiving a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (paragraph 47-49), converting the received control command into a control command based on an air conditioner communication protocol (paragraph 28, 29, 31), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 28-31, 40), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 26-29, 31, 49) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 47, 48),

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(claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (paragraph 47, 48). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

6. Claims 1-3, 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (U.S. Pat 6,157,943). The claimed invention reads on Meyer as follows:

Meyer discloses (claim 1) a central control system (figure 1) that controls multiple air conditioners including at least one outdoor device and a plurality of indoor devices (reference number 18, 23-26), said central control system comprising a central controller (reference number 32, 33) connected to the multiple air conditioners through a dedicated line (N1), for transmitting and receiving signals based on an air conditioner communication protocol (col. 4 lines 19-39), to control the multiple air conditioners (col. 3 lines 50-60), the central controller also connected to an external Internet network (col. 4 lines 8-18), for transmitting and receiving signals based on an Ethernet communication protocol (col. 4 lines 8-39), to receive a control command for the multiple air conditioners (col. 2 lines 7-29, col. 4 lines 8-18, col. 6 lines 50-63), and a protocol converter that performs a communication protocol conversion of a signal, whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (col. 4 lines 19-39), (claim 2) wherein the central controller comprises: a key input device that receives the control command associated with the multiple air conditioners (reference number 13, 32, 33), and an output device that outputs control conditions multiple air

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conditioners operated according to the control command (reference number 32, 33, 60), (claim 3) wherein the central controller comprises: a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for controlling the multiple air conditioners (website and browser, col. 4 line 40 – col. 5 line 9), (claim 5) wherein the central controller comprises a signal storage device that stores the control command received through the Internet network, an Internet data storage device that stores data for accessing the Internet network and IP address data; and a controller that controls the flow of signals transmitted and received through the Internet network, and controls the protocol converter for performing a communication protocol conversion of a signal (reference number 51), (claim 7) a method of operating a central control system for multiple air conditioners, comprising receiving a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (col. 4 lines 8-18, 40-63), converting the received control command into a control command based on an air conditioner communication protocol (col. 4 lines 19-39), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (col. 5 lines 10-20, col. 6 lines 51-63), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (col. 3 line 50 – col. 4 line 18), and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (col. 4 line 40 – col. 5 line 9), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (col. 4 lines 19-47). Examiner would like to point out that any reference to

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specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

7. Claims 1-3, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Masui et al (U.S. Pub 2003/0140637). The claimed invention reads on Masui et al as follows:

Masui et al discloses (claim 1) a central control system (figure 1, 15-17) that controls multiple air conditioners including at least one outdoor device (reference number 1) and a plurality of indoor devices (reference number 2), said central control system comprising a central controller (reference number 5) connected to the multiple air conditioners through a dedicated line (reference number 4), for transmitting and receiving signals based on an air conditioner communication protocol (paragraph 133, reference number 6), to control the multiple air conditioners (abstract, paragraph 2, 134, 135), the central controller also connected to an external Internet network (reference number 22, 87), for transmitting and receiving signals based on an Ethernet communication protocol (reference number 87, figure 41, 49, paragraph 358), to receive a control command for the multiple air conditioners (paragraph 358), and a protocol converter that performs a communication protocol conversion of a signal, whereby the control command input at a remote location can be transmitted to the multiple air conditioners through the Internet network (paragraph 358), (claim 2) wherein the central controller comprises a key input device that receives the control command associated with the multiple air conditioners (paragraph 145), and an output device that outputs control conditions of the multiple air conditioners operated according to the control command (paragraph 147, reference number 9), (claim 3) a control program driver that drives a control program accessible by a GUI (Graphic User Interface) for

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controlling the multiple air conditioners (paragraph 135, 136), (claim 7) a method of operating a central control system for multiple air conditioners, comprising receiving a control command for the multiple air conditioners that is transmitted from a remote controller over an Internet network (paragraph 134, 141, 148, reference number 13), converting the received control command into a control command based on an air conditioner communication protocol (reference number 6, paragraph 143, 148), transmitting the control command based on the air conditioner communication protocol to the multiple air conditioners (paragraph 143, 148), performing a control operation of the multiple air conditioners in response to the control command based on the air conditioner communication protocol (paragraph 148) and transmitting data representing control conditions of the multiple air conditioners to the remote controller over the Internet network (paragraph 149), (claim 8) further comprising converting the control condition data into control condition data based on an Ethernet communication protocol prior to transmission over the Internet network (reference number 87, figure 16, paragraph 212). Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer (U.S. Pat 6,157,943) in view of Nakamura et al (U.S. Pub 2003/0033392).

Meyer teaches most all of the instant invention as applied to claims 1-3 above. Meyer fails to teach wherein the central controller comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote controller in response to a request from the remote controller received through the Internet network.

Nakamura et al teaches an Internet based air conditioner and control system (figure 1) that has a central controller (reference number 1) comprises a control program transmitter that transmits the control program by downloading through an Internet browser by a remote control controller in response to a request from the remote controller received through the Internet network (paragraph 35-38).

Meyer and Nakamura et al are analogous art because they are both related to controlling an air conditioning device.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the internet based program downloading of Nakamura et al in the Internet based HVAC control of Meyer because Nakamura et al teaches a system that allows newly developed control software to be easily installed by someone who is not completely familiar with personal computers and software. Also that an air conditioner can be provided with only basic controls but can be later provided with custom controls if desired by a customer. Also, control software can be updated whenever a new control method has been developed (paragraph 4, 5).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Coogan (U.S. Pub 2003/0097204) – teaches a centralized control system for multiple air conditioners that is designed to communicate not only on a control network but also the Internet.

Roh (U.S. Pub 2001/0003906) – teaches a centrally controlled air conditioner, with an outdoor unit and multiple indoor units which is also connected to the Internet.

Gravlin (U.S. Pat 6,353,853) – teaches an Internet based HVAC system that monitors and controls over the Internet.

Reich et al (U.S. Pat 6,782,294) – teaches an Internet based system used to control an HVAC system, which can download programs from the Internet.

Ziegler, Jr. (U.S. Pat 6,731,992) – teaches an HVAC system that can be monitored and controlled over the Internet, also connects using serial ports.

Papadopoulos et al (U.S. Pat 6,061,603) – teaches a control system that can control any

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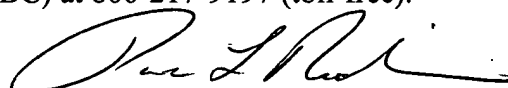
programmable logic controller over the Internet, where an interface translates TCP/IP and HTTP protocols to data and protocols recognized by the PLC.

Saitoh et al (U.S. Pat 6,038,486) – teaches a distributed control system that can be controlled using the Internet, the control devices include HVAC.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul L Rodriguez
Primary Examiner
Art Unit 2125

PLR
03/17/05